



UNITED STATES PATENT AND TRADEMARK OFFICE

cin

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,339	10/20/2003	Daniel Eduardo Groszmann	134074NV (15084US01)	2897

23446 7590 05/01/2007
MCANDREWS HELD & MALLOY, LTD
500 WEST MADISON STREET
SUITE 3400
CHICAGO, IL 60661

EXAMINER

TANINGCO, ALEXANDER H

ART UNIT	PAPER NUMBER
----------	--------------

2882

MAIL DATE	DELIVERY MODE
-----------	---------------

05/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/689,339	Applicant(s) GROSZMANN, DANIEL EDUARDO	
	Examiner Alexander H. Taningco	Art Unit 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 9, 10, 12-16, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Oikawa (US 6,411,674).

With regards to claims 1, 9, and 15, Oikawa disclose a method comprising: varying a distance between an object and at least one of a detector **D** and a source **R** to form a virtual isocenter (Col. 2 Line 55; Col. 3 Lines 17-21); maintaining an object at said virtual isocenter during imaging of said object (Fig. 4); normalizing a magnification change in image data obtained as said virtual isocenter is maintained (Col. 8 Lines 54-57); and reconstructing an image **4** of said object based on said image data and said normalized magnification change (Fig. 2; Col. 8 Lines 57-64).

With regards to claims 2 and 10, Oikawa disclose a method comprising tracking a position of said detector and a position of said object (Col. 3 Lines 19-20).

With regards to claim 3, Oikawa disclose a method comprising wherein varying step further comprises varying said distance between image exposures (Col. 2 Lines 40 and 55-56).

With regards to claims 4, 12, Oikawa disclose a method further comprising determining a distance between said detector and a source (Col. 8 Lines 50-51).

With regards to claims 5, 13, and 16, Oikawa disclose a method further comprising determining a position of at least one of said detector and a source with respect to said object (Col. 8 Lines 45-47).

With regards to claims 6, 19, Oikawa disclose a method further comprising mounting said detector and a source on a C-arm **3a** (Fig. 3).

With regards to claims 7, 14, Oikawa disclose a method further comprising moving said C-arm in a non-circular path to move said detector and said source around said object while varying said distance between said detector and said object (Col. 8 Lines 46-47; 50-51).

With regards to claim 20, Oikawa disclose a system further comprising a positioning device **1** for positioning said object **M** with respect to said support (Fig. 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oikawa (US 6,411,674) in view of Endo et al. (US 5,452,337).

With regards to claim 8, Oikawa disclose a method as recited above in claim 1. Oikawa fail to explicitly teach a method wherein said reconstructing step further comprises reconstructing a three-dimensional image of said object based on said image data and said normalized magnification change. Endo et al. teach a method wherein

said reconstructing step further comprises reconstructing a three-dimensional image of said object based on said image data and said normalized magnification change (Col. 10 Lines 6-30). It would have been obvious to one of ordinary skill in the art, at the time of invention to modify the invention of Oikawa to include a method wherein said reconstructing step further comprises reconstructing a three-dimensional image of said object based on said image data and said normalized magnification change, to improve imaging analysis as implied by Endo et al. (Col. 1 Lines 5-10).

Claims 11, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oikawa (US 6,411,674) in view of Habraken et al. (US 2001/0031039).

With regards to claims 11, 17, and 18, Oikawa disclose a method as recited above in claim 10. Oikawa fail to teach a method wherein said tracking system comprises an electromagnetic tracking system for determining a position of said detector with respect to said object. Habraken et al. teach a method wherein said tracking system comprises an electromagnetic tracking system for determining a position of said detector with respect to said object (Abs.). It would have been obvious to one of ordinary skill in the art, at the time of invention to modify the invention of Oikawa to include a method wherein said tracking system comprises an electromagnetic tracking system for determining a position of said detector with respect to said object, in order to prevent collisions between movable parts (Abs. Lines 2-3; Fig. 1 note: 16 and 18).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show:

Tesic et al. (US 5,287,546) (378/54)

- Radiation angle and the detector-to-patient distance to be altered during a scan so as to provide constant magnification
- C-arm gantry rotate about an isocenter

Navab et al. (US 6,236,704) (378/4)

- Warping image on the physical detector onto a virtual detector plane fixed in space with respect to the X-ray source, the image can then be mapped into three-dimensional voxels without having to account for rotation and translation of the detector with respect to the X-ray source

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander H. Taningco whose telephone number is (571) 272-8048. The examiner can normally be reached on Mon-Fri 8:00-4:30 EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2882

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alexander Taningco
Patent Examiner
Art Unit 2882
571.272.8048



Courtney Thomas
Courtney Thomas
Primary Examiner